Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

(FINAL)
Conditional Major, Operating
Permit: F-07-028 R1
Somerset Recycling Services, Inc.
Somerset, KY 42503
1/23/08
Julian D. Breckenridge, Reviewer

SOURCE ID:	21-199-00098
SOURCE A.I. #:	54848
ACTIVITY ID:	APE20070001

SOURCE DESCRIPTION:

Somerset Recycling Services, Inc. located in Somerset, KY recycles clean, surplus, and quality rejected products. Their process uses various sizes of grinders to reduce the incoming products to a flake-type material, which is sold to post-secondary plastic manufactures. The first three machines grind hard plastic into chips. Each has its own cyclone (80% efficiency). Grinder #1 has its own in-line baghouse (99.9% efficiency) downstream of the cyclone while units #2 and #3 are connected to a second baghouse downstream (99.9% efficiency) of their respective cyclones. Both baghouse units vent into the building. The combined control efficiency for each unit (1-3) is 99.98%. Machine #4 is a pre-grinder that merely breaks the original-sized hard plastic parts in a manageable size for Units 1-3. Machine #4 (pre-grinder) does not have a control device attached. Grinders #5-10 are used to grind plastic bags into a flake product. All six units (5-10) are identical. Each plastic bag grinder uses water to control dust (75% efficiency) and to aid in the grinding process. In addition to the water suppression, each unit has a cyclone of 80% efficiency. The exhaust from the each cyclone is ducted into its own dedicated final bag collector (50% efficiency) located outside for ease in particulate disposal. The combined control efficiency for each unit (5-10) is 97.5%.

On March 12, 2007 the Division of Air Quality received an application from Somerset Recycling Services, Inc. for an initial conditional major permit under 401 KAR 52:030. The application was completed on April 4, 2007 with the result that the source has maximum allowable emissions of 116 tons per year of particulate matter (PM/PM_{10}), based on emission limits from 401 KAR 59:010.

MINOR REVISION FOR F-07-028 R1

On October 31, 2007 the Division for Air Quality received an application from Somerset Recycling Services, Inc. for a minor revision under Section 14 of 401 KAR 52:030. The request was to change the name of the existing six plastic bag grinders (EP5 – EP10) to "plastic bag densifiers" and to add two more plastic bag densifiers (EP11 – EP12) that were mistakenly omitted from the previous application for an initial conditional major permit. EP11 and EP12 both have the same throughput rates and control efficiencies as EP5 – EP10. Moreover, EP3 was removed from the facility in 2005 and needs to be eliminated from the permit altogether. The application was completed on December 18, 2007 with the result that the source's maximum allowable emissions increased approximately 4 tons per year of particulate matter (PM/PM_{10}).

COMMENTS:

Emission Units:

EMISSION POINTS	DESCRIPTION	MAXIMUM HOURLY RATE (LB/HR)
01	Hard Plastic Grinder #1 (Large) Installation Date: 2/2003	2158.27
02	Hard Plastic Grinder #2 (Medium) Installation Date: 12/1997	2206.62
04	Hard Plastic Pre-Grinder #4 Installation Date: 12/1997	525.00
05	Plastic Bag Densifier #5 Installation Date: 6/1998	557.30
06	Plastic Bag Densifier #6 Installation Date: 3/2006	557.30
07	Plastic Bag Densifier #7 Installation Date: 9/2006	557.30
08	Plastic Bag Densifier #8 Installation Date: 3/1997	557.30
09	Plastic Bag Densifier #9 Installation Date: 8/2002	557.30
10	Plastic Bag Densifier #10 Installation Date: 8/2002	557.30
11	Plastic Bag Densifier #11 Installation Date: 8/2003	557.30
12	Plastic Bag Densifier #12 Installation Date: 8/2003	557.30

Table 1. Summary of all emission points, descriptions, rated capacities, and emission factor basis

EMISSION POINTS	CONTROL DEVICES	COMBINED CONTROL EFFICIENCY (%)
01 – 02	Cyclone (80% efficiency) and Baghouse (99.9% efficiency)	99.98
04	None	NA
05 – 12	Water Suppression (75% efficiency), Cyclone (80% efficiency) and Bag Collector (50% efficiency)	97.50

Table 2. Control devices and control efficiencies at the emission points

a) Potential to Emit Calculations
Engineering estimates were used to calculate emissions from the emission points. The methodology used to calculate emissions is consistent with that approved by the Division of Air Quality (DAQ).

b) Applicable Regulations
401 KAR 59:010, *New process operations*
All of the grinders were installed after July 2, 1975, therefore the requirements of 401 KAR 59:010 apply to the processes in the facilities. Pursuant to 401 KAR 59:010,

particulate emissions from each of emission points 01 – 12 shall not exceed the Allowable Rate Limit as calculated by the equation in 401 KAR 59:010, Section 3 (2). In addition, the visible emissions from each emission point in the press mixer area shall not be greater than 20 % opacity.

c) Non-applicable Regulations

401 KAR 63:005, *Open Burning.* The permittee must comply with this regulation as a general standard for preventing any contaminants into the open air, but this rule is not applicable to the process at hand.

401 KAR 63:010, *Fugitive Emissions.* The permittee must comply with this regulation as a general standard for preventing any contaminants into the open air, but this rule is not applicable to the process at hand.

EMISSION AND OPERATING CAPS DESCRIPTION:

Somerset Recycling Services, Inc. has applied to operate under federally enforceable permit limits of less than 90 tons per year of particulate matter (PM/PM_{10}).

PERIODIC MONITORING:

a) The following parameters shall be continuously monitored:

Control Device	Emission Points	Stacks and Vents	Parameter and Schedule
Cyclones (10)	01-02, 05-12	BHS#1, BHS#2 & PBS#5 – PBS#12	Monthly inspection on all equipment
In-Line Baghouses (2)	01-02	BHS#1, BHS#2	
Outside Dust Collector	05-12	PBS#5 – PBS#12	

Note (1): Outlet gas streams for both BHS#1 and BHS#2 release to the inside of the building.
Note (2): All ten (10) cyclones are closed-loop systems that are ducted to the secondary collectors.

b) The permittee shall perform a qualitative visual observation of the opacity of emissions from Stacks PBS#5 – PBS#12 at least once per month. If visible emissions are seen, the permittee shall perform an EPA Reference Method 9 test for opacity on the applicable stack emissions within 24 hours of observing visible emissions, and make any necessary repairs to bring the opacity into compliance. [401 KAR 59:010(4)(5)]

OPERATIONAL FLEXIBILITY:

The source is not restricted as to hours of operation or quantity of product produced while remaining within the caps above.

CREDIBLE EVIDENCE:

This permit contains provisions, which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.